EXHIBIT 38

To: Anderson, Barbara A. (ATSDR/DHAC/EISAB)[bha6@cdc.gov]; 'mustafa.aral@ce.gatech.edu'[mustafa.aral@ce.gatech.edu]; Maslia, Morris (ATSDR/DHAC/EISAB)[mfm4@cdc.gov]
Cc: Suarez-Soto, Rene J. (ATSDR/DHAC/EISAB)[eta6@cdc.gov]
From: Anderson, Barbara A. (ATSDR/DHAC/EISAB)[/O=CDC/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BHA6]
Sent: Mon 9/26/2011 3:13:41 PM (UTC)
Subject: RE: Start date and LNAPL source functions for the HPFF/Bldg 1115 area - correction
SourceScenarios.docx

Rene noticed a mistake that I wanted to correct: for scenario 2, the source starts at 0% rather than 100%.

Scenario 2, ramp function

- **1951**: LNAPL source starts at 0% initial strength

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From: Anderson, Barbara A. (ATSDR/DHAC/EISAB)
Sent: Monday, September 26, 2011 9:38 AM
To: 'mustafa.aral@ce.gatech.edu'; Maslia, Morris (ATSDR/DHAC/EISAB)
Cc: Suarez-Soto, Rene J. (ATSDR/DHAC/EISAB)
Subject: Start date and LNAPL source functions for the HPFF/Bldg 1115 area

All,
In last week's meeting we agreed to standardize the process used to determine the start date(s) for the sources we are using in our models. Rene and I worked together to review some references about leaking UST systems and how we could apply that info to the modeling effort. The results for the HPFF area are summarized below. The same method is being applied to determine start dates for the UST-related TCE sources in Rene's model.

We are also offering two scenarios for the source function conceptualization (see info below and details in the attached). It seems wise to run a couple of different source scenarios to see the overall effects of varying source characterization. Not sure how many scenarios we should ultimately run, but we selected two for consideration.

The first scenario is a simple step function. The second scenario incorporates some information we have about the HPFF area and conceptualizes the source strength/LNAPL area as increasing over time. In reality, the LNAPL footprint grew and spread as the UST system leaks and releases progressed. At some point in time, the LNAPL footprint grew to be the size that GT calculated from the free product data (1988-1998). But it was not that size from the beginning/start date; this is shown in scenario 2.

Please review the info below and the assumptions/details provided in the attached document and let us know if you have any questions.
We would be happy to come to your offices to discuss this further. I'm not sure how the source is currently built into your model -? It may help to discuss your conceptualizations alongside the ones presented here. Hopefully they are not too far apart ;)
Thanks,
Barb

START DATE will be January 1951

Start Date = Date of tank installation (or best approximation, usually rounding up to January of the next year if only year is provided) + 9 years (median leak time for UST system piping*)

Background information
1941: HPFF USTs were installed [UST #669 and #670]
1942: Earliest date for UST install at Bldg 1115 [UST #408, UST #504 and #507, UST #670]

Start date calculated as = Jan 1942 + 9 years = January 1951

The rationale for adding the 9 years to the tank install date is based primarily on an EPA study that evaluated 1,244 leak incident reports within the United States (EPA 1986 report findings, as discussed in Gangadharan et al 1988, p4, p10-13*). They found the mean and median age for piping leaks is 11 and 9 years, respectively. We decided the median is the best estimator for our purposes.

For more info on the leaking UST system references, see the attached email that I sent to GT some months ago. It contains relevant report excerpts. I believe I provided this info on CD as well -?

** Gangadharan et al. 1988. Leak Prevention and Corrective Action Technology for Underground Storage Tanks. Park Ridge, NJ, Noyes Data Corporation.*

SOURCE FUNCTION SCENARIOS

Background information

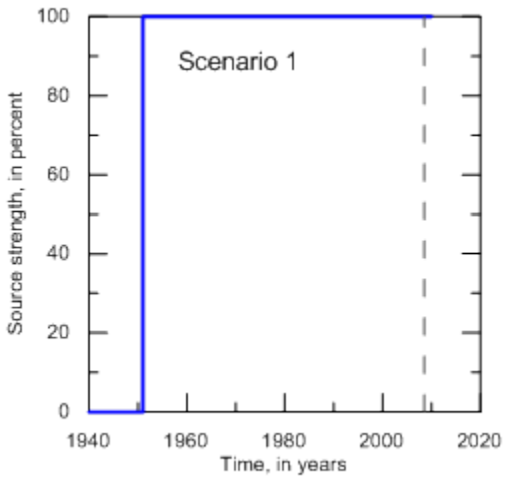
Jan 1993: USTs in the HPFF and Bldg 1115 area were removed [UST #1186 and #670]

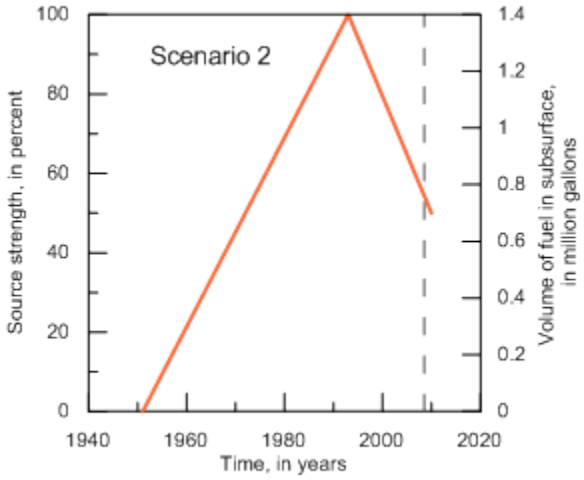
Dec 2000: Piping removal at HPFF/Bldg 1115 [UST #417] - see attached ATSDR figure for piping locations

Calculated fuel in subsurface: 1,400,000 gal [GT MESL 2011]

Potential source scenarios for consideration

[Note: Source strength could be programmed as LNAPL area/volume in the model -? This would be more consistent with how the LNAPL footprint probably developed and spread as the fuel leaks and releases progressed over time.]





Scenario 1, simple step function

- 1951: LNAPL source applied at 100% strength
- Constant source throughout simulation period
- LNAPL source persists even after HPFF/Bldg 1115 USTs removed in 1993

Scenario 2, ramp function

- **1951**: LNAPL source applied at 100% strength
- 1991: Remediation initiated at HPFF (4 recovery wells)
- **1993**: Max source strength/LNAPL volume of 1.4 million gal [GT MESL 2011]
  - 1.4 million gal/42 yrs = "leak rate" of 2,778 gal/mo
  - HPFF and Bldg 1115 USTs removed in 1993
- 1993–2000, 2005: Remediation steadily efforts increased at HPFF/Bldg 1115
- **2010**: Source strength approximately 70% of maximum
  - USMC reported 414,118 gal of fuel recovered as of July 2010, which equates to 30% of the 1.4 million gal total volume; 70% remaining in subsurface

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